

CLAIMS

1       1. An information processing apparatus comprising:

2               generation means for generating reference relationship  
3               information representing a correlation between design  
4               information used for a design operation, and geometry data  
5               that is obtained by the design operation;

6               storage means for storing said reference relationship  
7               information generated by said generation means; and

8               display means for employing said reference relationship  
9               information stored in said storage means to display the fact  
10              that a reference relationship is established between said  
11              design information and said geometry data.

1       2. The information processing apparatus according to claim 1,  
2       wherein said design information, for which said reference  
3       relationship information is generated by said generation  
4       means, is at least one of a document, a graphical  
5       representation and a table.

1       3. The information processing apparatus according to claim 1,  
2       wherein said geometry data, for which said reference  
3       relationship information is generated by said generation  
4       means, is data for a part, or for a portion that is a  
5       constituent element of said part.

1       4. The information processing apparatus according to claim 1,  
2       wherein said display means displays information representing  
3       the fact that said reference relationship is established  
4       between said design information and said geometry data, in

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5 association with an element of said design information or said  
6 geometry data.

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1       5. An information processing apparatus comprising:

2               geometry data display means for displaying geometry data  
3               that is designed;

4               generation means for generating reference relationship  
5               information that represents a reference relationship between  
6               said geometry data and a digital document on which the  
7               determination of said geometry data is based; and

8               embedding and displaying means for embedding and  
9               displaying, in an element of said geometry data to be  
10               displayed, the linking information of said digital document  
11               that is to be referred to, based on said reference  
12               relationship information generated by said generation means.

1       6. The information processing apparatus according to claim 5,  
2               further comprising:

3               designation means for designating said element that  
4               includes said linking information that is embedded and  
5               displayed by said embedding and displaying means; and

6               reference target display means for displaying said  
7               digital document, based on said linking information included  
8               in said designated element and said reference relationship  
9               information.

1       7. An information processing apparatus comprising:

2             design information display means for displaying design  
3             information used to design geometry data that constitutes a  
4             predetermined part or portion thereof;

5             generation means for generating reference relationship  
6             information for said design information to be displayed and  
7             said geometry data designed in accordance with said design  
8             information; and

9             embedding and displaying means for embedding and  
10            displaying, in said design information to be displayed by said  
11            design information display means, linking information that is  
12            based on said reference relationship information.

1       8. The information processing apparatus according to claim 7,  
2            further comprising:

3             designation means for designating said design information  
4             that includes said linking information that is embedded and  
5             displayed by said embedding and displaying means; and

6             geometry data display means, for employing said linking  
7             information included in said designated design information,  
8             and said reference relationship information, to display said  
9             geometry data designed based on said designated design  
10            information.

1       9. A design support system comprising:

2           a digital document related module for storing a digital  
3           document that includes design information or background  
4           information used for a design operation;

5           a geometry data related module for storing geometry data  
6           designed using said design operation; and

7           a reference relationship related module for generating  
8           reference relationship information representing a correlation  
9           between a predetermined digital document stored by said  
10          digital document related module and predetermined geometry  
11          data stored by said geometry data related module.

1       10. The design support system according to claim 9, wherein  
2           said reference relationship related module establishes a  
3           reference from digital document to geometry data and/or a  
4           reference from geometry data to digital document.

1       11. The design support system according to claim 9, wherein  
2           the said digital document related module calls and displays  
3           said stored digital document, and adds and displays, to said  
4           digital document, reference relationship information that is  
5           generated by said reference relationship related module as a  
6           link to reference target geometry data.

1       12. The design support system according to claim 9, wherein  
2           said geometry data related module calls and displays said  
3           stored geometry data, and adds and displays, to an element of  
4           said geometry data, reference relationship information that is  
5           generated by said reference relationship related module, as a  
6           link to a digital document.

1       13. A computer program product comprising a computer usable  
2       medium having computer program logic recorded thereon for  
3       enabling a computer to support a user's design operation, the  
4       computer program logic comprising:

5            generation means for enabling the computer to generate  
6            reference relationship information that represents a  
7            correlation between design information used for the design  
8            operation and geometry data that is obtained by said design  
9            operation; and

10           displaying means for enabling the computer to display  
11            said design information and/or said geometry data while  
12            adding, to an element of said design information and/or of  
13            said geometry data, information indicating the fact that a  
14            reference relationship is established between said design  
15            information and said geometry data.

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1       14. A computer program product comprising a computer usable  
2       medium having computer program logic recorded thereon for  
3       enabling a computer to support a user's design operation, the  
4       computer program logic comprising:

5               geometry data displaying means for enabling the computer  
6       to display geometry data that is designed;

7               generation means for enabling the computer to generate  
8       reference relationship information that represents a reference  
9       relationship between said geometry data and a digital document  
10      on which the determination of said geometry data is based; and

11              embedding and displaying means for enabling the computer  
12      to embed and display, in an element of said geometry data  
13      displayed by said geometry data displaying means, the linking  
14      information of a digital document that is a reference target,  
15      based on said reference relationship information generated by  
16      said generation means.

1       15. The computer program product according to claim 14,  
2       wherein said computer program logic further comprises:

3               designation recognition means for enabling the computer  
4       to recognize that a user has designated said element including  
5       the linking information that is embedded and displayed by said  
6       embedding and displaying means; and

7               reference target display means for enabling the computer  
8       to display, after the designation is recognized by said  
9       designation recognition means, said digital document, based on  
10      said linking information included in said recognized element  
11      and said reference relationship information.

1       16. The computer program product according to claim 15,  
2       wherein, when multiple digital documents are present as the  
3       reference target, said reference target display means enables  
4       the computer to display a list of said multiple digital  
5       documents; and wherein, when it is recognized that a specific  
6       digital document on said list has been designated, said  
7       reference target display means enables the computer to display  
8       detailed information for said specific digital document.

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1       17. A computer program product comprising a computer usable  
2       medium having computer program logic recorded thereon for  
3       enabling a computer to support a user's design operation, the  
4       computer program logic comprising:

5                digital document display means for enabling the computer  
6        to display digital document information used for designing  
7        geometry data that constitutes a predetermined part or portion  
8        thereof;

9                generation means for enabling the computer to generate  
10      information for a reference relationship between said digital  
11      document information to be displayed by said digital document  
12      display means, and geometry data designed in accordance with  
13      said digital document information; and

14               embedding and displaying means for enabling the computer  
15      to embed and display, in said digital document information to  
16      be displayed by said digital document display means, linking  
17      information that is based on said reference relationship  
18      information generated by said generation means.

1       18. A computer program product according to claim 17, wherein  
2       said computer program logic further comprises:

3                designation recognition means for enabling the computer  
4        to recognize that a user has designated said digital document  
5        information including said linking information that is  
6        embedded and displayed by said embedding and displaying means;  
7        and

8                geometry data display means for enabling the computer to  
9        employ, after the designation has been recognized by said  
10      designation recognition means, said reference relationship  
11      information generated by said generation means, and to display  
12      geometry data that is designed based on said designated

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13 digital document information.

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1        19. A design support information display method comprising the  
2        steps of:

3                   storing information for a reference relationship between  
4    digital document information and geometry data;

5 searching for reference relationship information that  
6 matches a digital document to be displayed; and

7 displaying said digital document, while linking  
8 information to geometry data as a reference target is added to  
9 a predetermined position of the source digital document by  
10 employing said reference relationship information.

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1       20. A design support information display method comprising the  
2       steps of:

3               storing information for a reference relationship between  
4       digital document information and geometry data;

5               searching for reference relationship information that  
6       matches geometry data to be displayed; and

7               displaying said geometry data, while linking information  
8       to the digital document as a reference target is added to an  
9       element of the source geometry data by employing said  
10      reference relationship information.

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